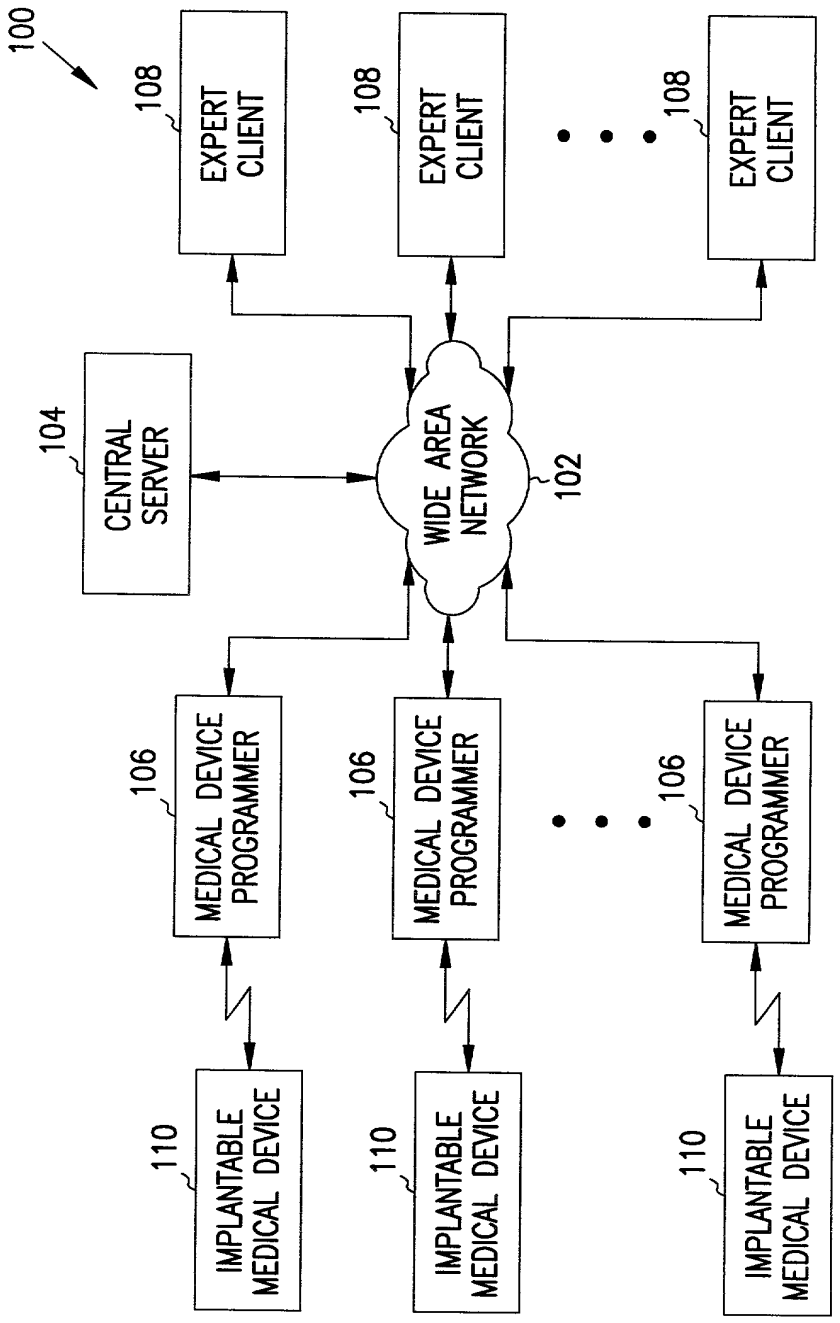
100
108
EXPERT CLIENT
108
EXPERT CLIENT
108
EXPERT CLIENT
104
CENTRAL SERVER
WIDE AREA NETWORK
102
106
MEDICAL DEVICE PROGRAMMER
106
MEDICAL DEVICE PROGRAMMER
106
MEDICAL DEVICE PROGRAMMER
110
IMPLANTABLE MEDICAL DEVICE
110
IMPLANTABLE MEDICAL DEVICE
110
IMPLANTABLE MEDICAL DEVICE

FIG. 1

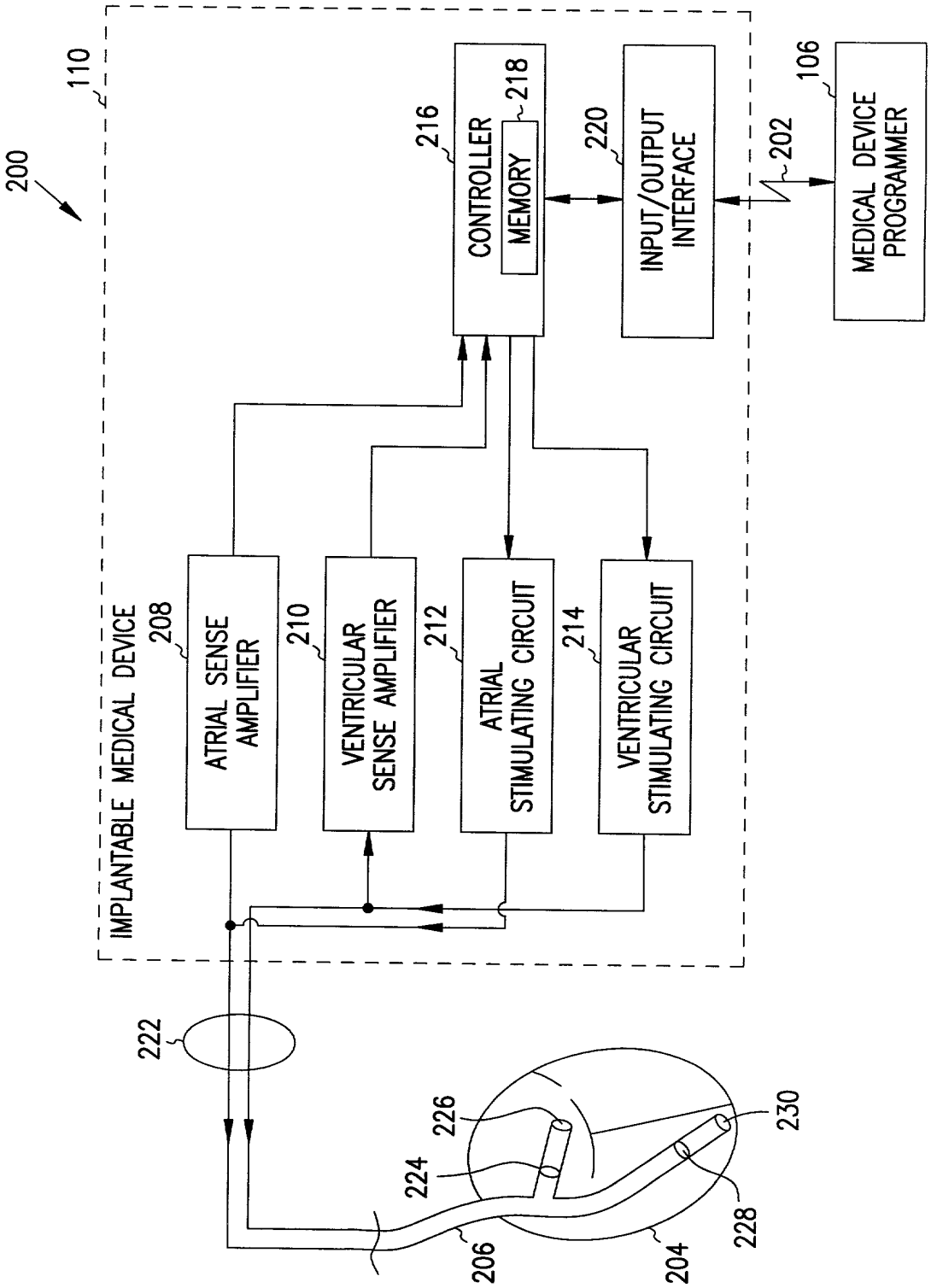
200
110
IMPLANTABLE MEDICAL DEVICE
CONTROLLER
MEMORY
216
218
INPUT/OUTPUT INTERFACE
220
202
MEDICAL DEVICE PROGRAMMER
106
ATRIAL SENSE AMPLIFIER
208
VENTRICULAR SENSE AMPLIFIER
210
ATRIAL STIMULATING CIRCUIT
212
VENTRICULAR STIMULATING CIRCUIT
214
222
226
224
230
228
206
204

FIG. 2

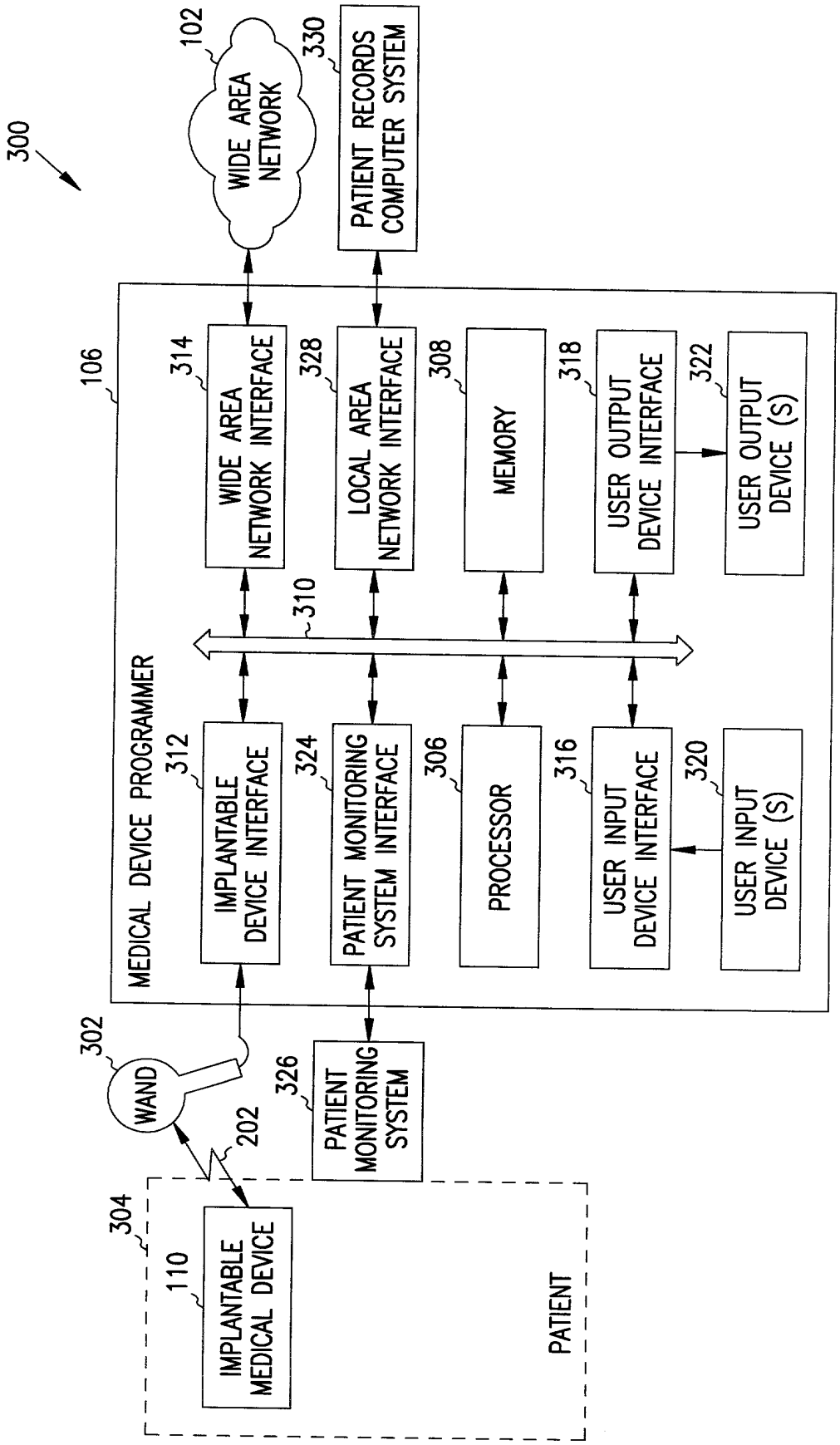
300
102
WIDE AREA NETWORK
330
PATIENT RECORDS COMPUTER SYSTEM
106
MEDICAL DEVICE PROGRAMMER
314
WIDE AREA NETWORK INTERFACE
328
LOCAL AREA NETWORK INTERFACE
308
MEMORY
318
USER OUTPUT DEVICE INTERFACE
322
USER OUTPUT DEVICE (S)
310
312
IMPLANTABLE DEVICE INTERFACE
324
PATIENT MONITORING SYSTEM INTERFACE
306
PROCESSOR
316
USER INPUT DEVICE INTERFACE
320
USER INPUT DEVICE (S)
302
WAND
202
326
PATIENT MONITORING SYSTEM
304
110
IMPLANTABLE MEDICAL DEVICE
PATIENT

FIG. 3

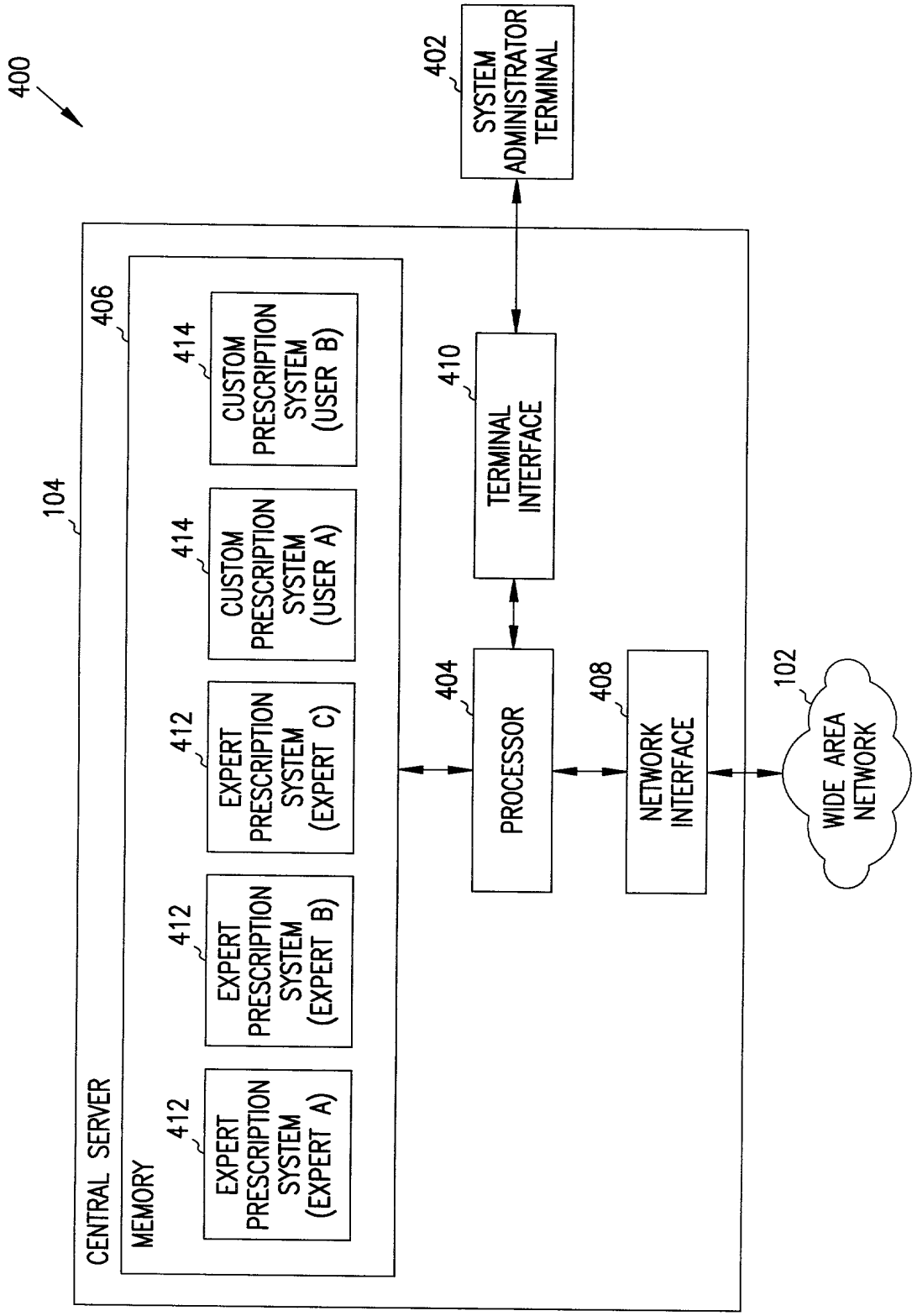
400
402
SYSTEM ADMINISTRATOR TERMINAL
104
CENTRAL SERVER
406
MEMORY
412
EXPERT PRESCRIPTION SYSTEM (EXPERT A)
412
EXPERT PRESCRIPTION SYSTEM (EXPERT B)
412
EXPERT PRESCRIPTION SYSTEM (EXPERT C)
414
CUSTOM PRESCRIPTION SYSTEM (USER A)
414
CUSTOM PRESCRIPTION SYSTEM (USER B)
410
TERMINAL INTERFACE
404
PROCESSOR
408
NETWORK INTERFACE
102
WIDE AREA NETWORK

FIG. 4

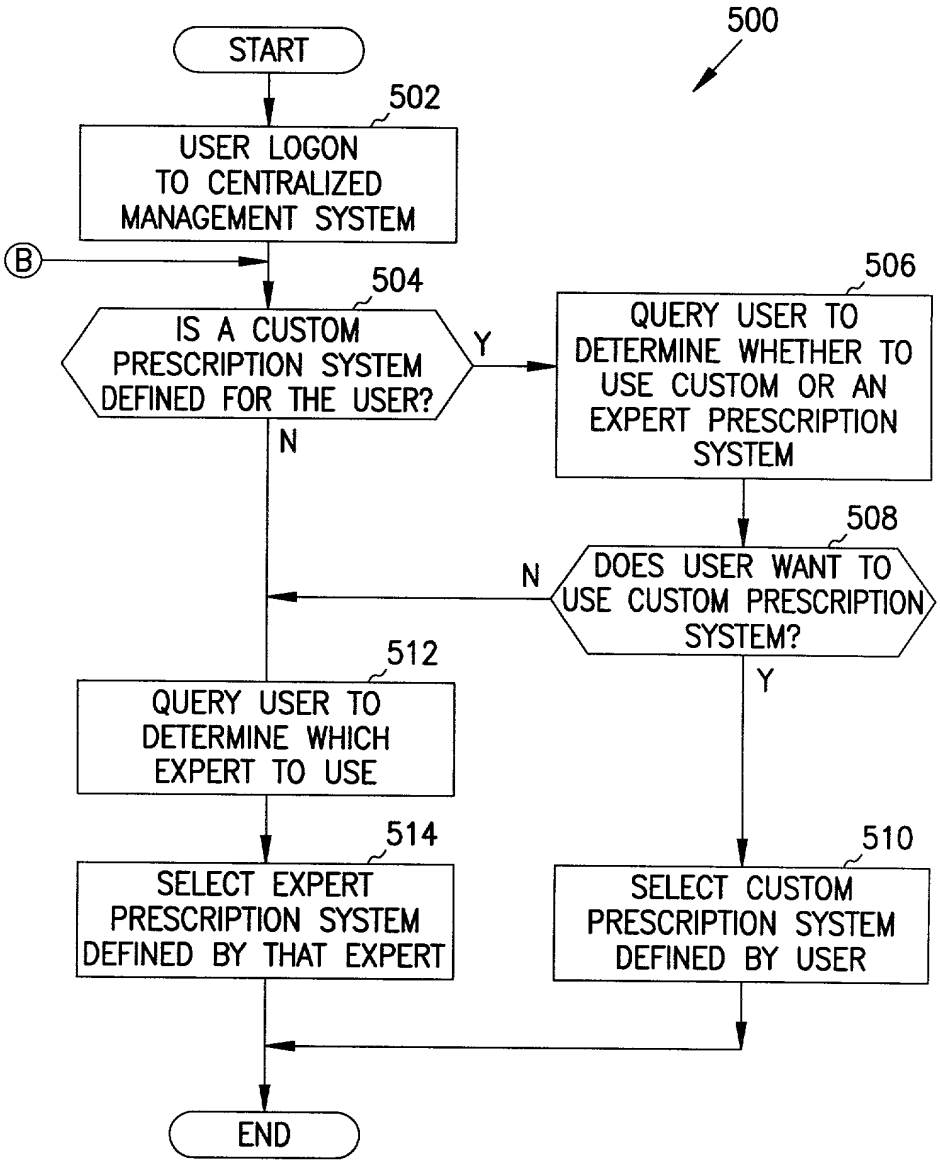
500
START
502
USER LOGON TO CENTRALIZED MANAGEMENT SYSTEM
B
504
IS A CUSTOM PRESCRIPTION SYSTEM DEFINED FOR THE USER?
Y
N
506
QUERY USER TO DETERMINE WHETHER TO USE CUSTOM OR AN EXPERT PRESCRIPTION SYSTEM
508
DOES USER WANT TO USE CUSTOM PRESCRIPTION SYSTEM?
N
Y
512
QUERY USER TO DETERMINE WHICH EXPERT TO USE
514
SELECT EXPERT PRESCRIPTION SYSTEM DEFINED BY THAT EXPERT
510
SELECT CUSTOM PRESCRIPTION SYSTEM DEFINED BY USER
END

FIG. 5

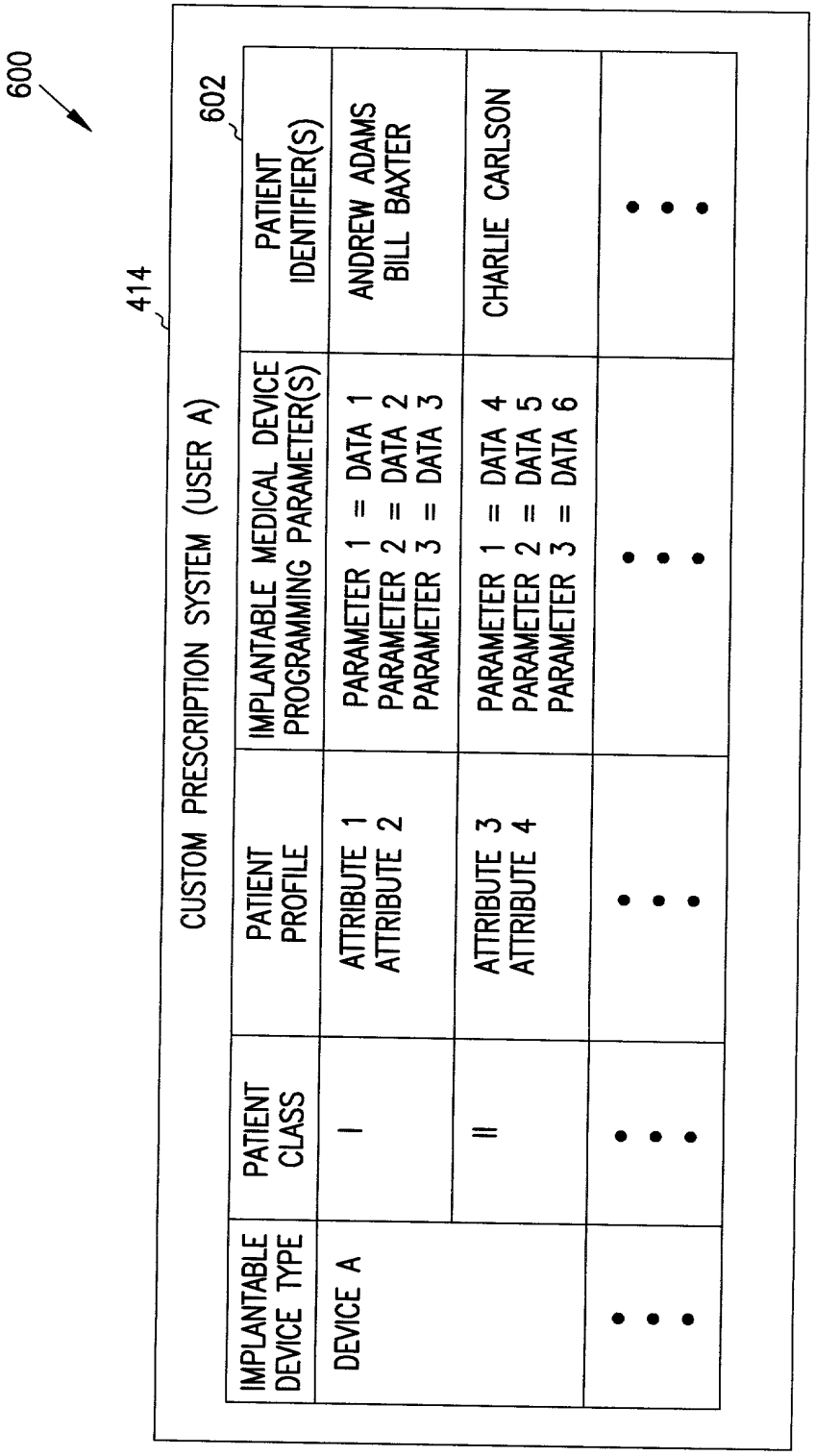
600
414
602
CUSTOM PRESCRIPTION SYSTEM (USER A)
IMPLANTABLE DEVICE TYPE
PATIENT CLASS
PATIENT PROFILE
IMPLANTABLE MEDICAL DEVICE PROGRAMMING PARAMETER(S)
PATIENT IDENTIFIER(S)
DEVICE A
I
ATTRIBUTE 1
ATTRIBUTE 2
PARAMETER 1 = DATA 1
PARAMETER 2 = DATA 2
PARAMETER 3 = DATA 3
ANDREW ADAMS
BILL BAXTER
II
ATTRIBUTE 3
ATTRIBUTE 4
PARAMETER 1 = DATA 4
PARAMETER 2 = DATA 5
PARAMETER 3 = DATA 6
CHARLIE CARLSON

FIG. 6

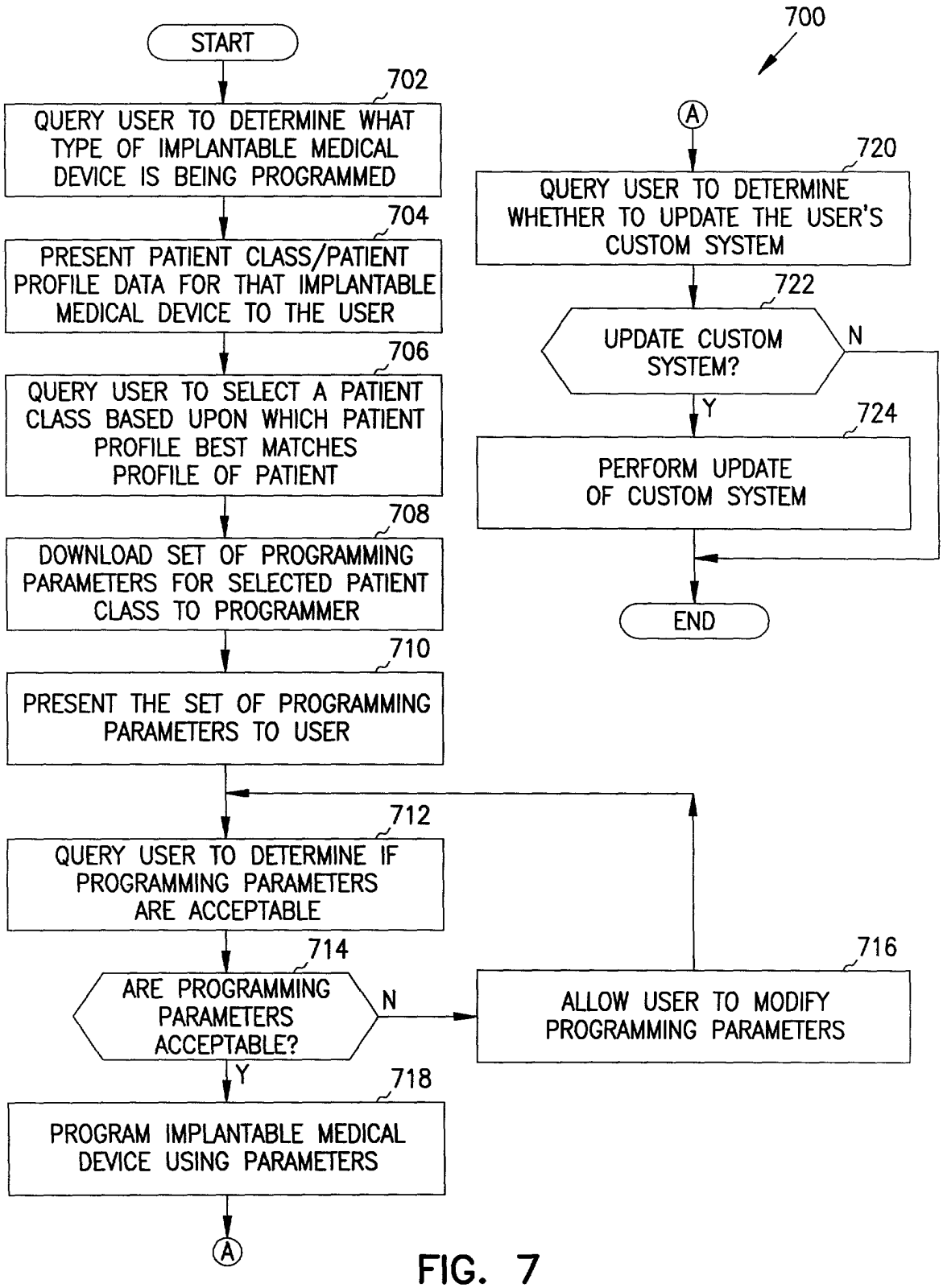

FIG. 7

Express Mail Label No. EV 708 745 405 US

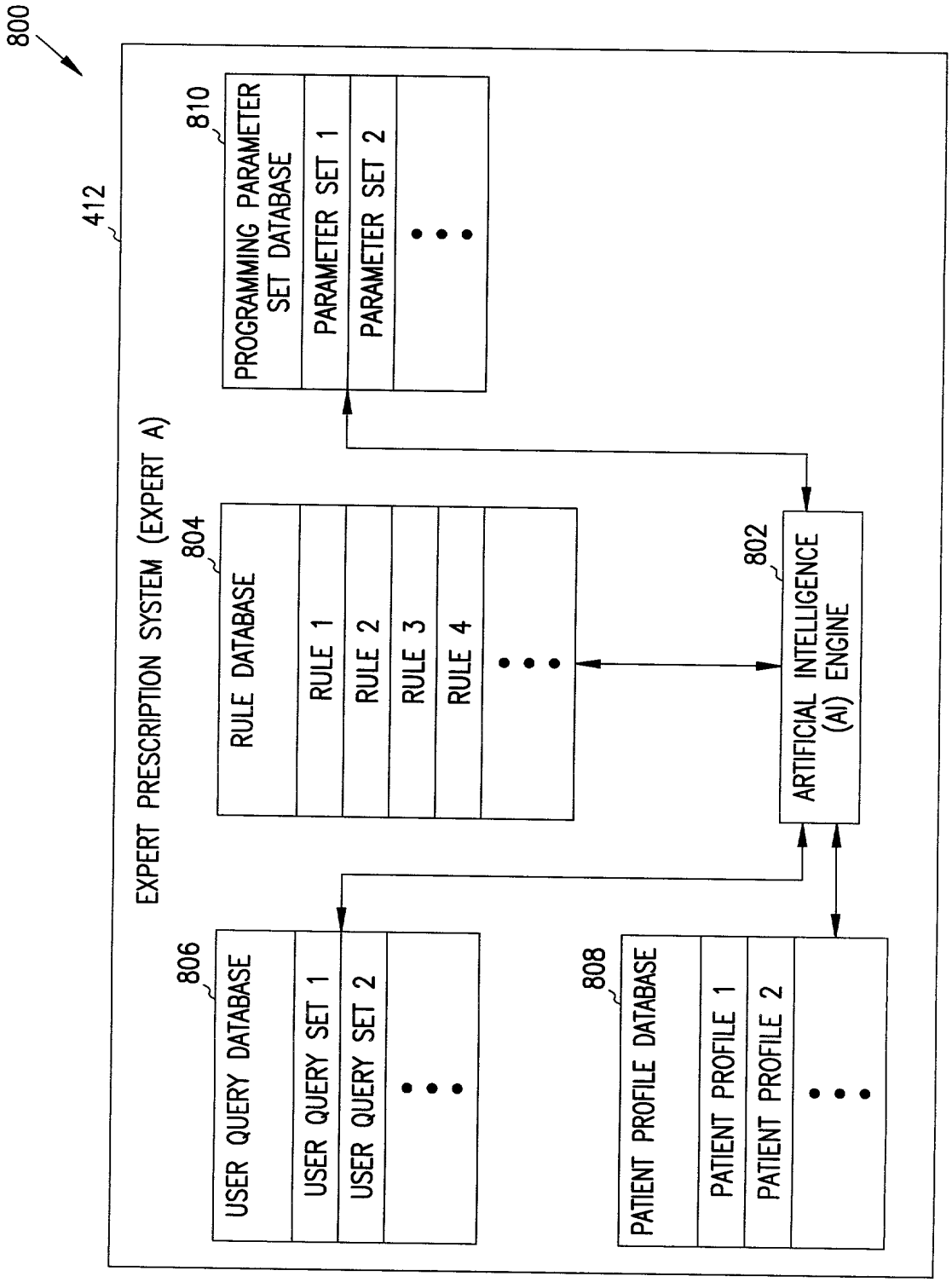
800
412
EXPERT PRESCRIPTION SYSTEM (EXPERT A)
810
PROGRAMMING PARAMETER SET DATABASE
PARAMETER SET 1
PARAMETER SET 2
804
RULE DATABASE
RULE 1
RULE 2
RULE 3
RULE 4
802
ARTIFICIAL INTELLIGENCE (AI) ENGINE
806
USER QUERY DATABASE
USER QUERY SET 1
USER QUERY SET 2
808
PATIENT PROFILE DATABASE
PATIENT PROFILE 1
PATIENT PROFILE 2

FIG. 8

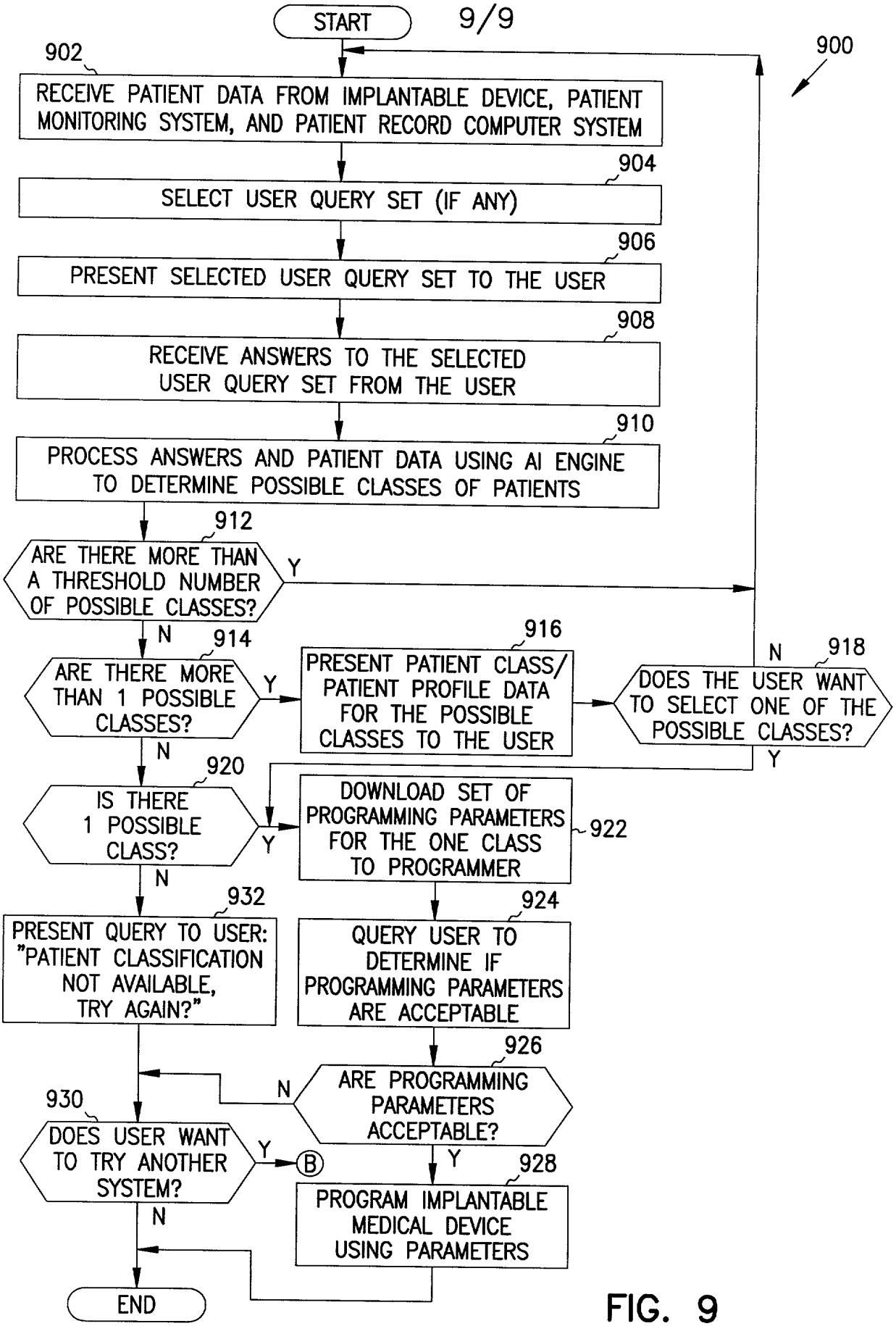
START
900
902
RECEIVE PATIENT DATA FROM IMPLANTABLE DEVICE, PATIENT MONITORING SYSTEM, AND PATIENT RECORD COMPUTER SYSTEM
904
SELECT USER QUERY SET (IF ANY)
906
PRESENT SELECTED USER QUERY SET TO THE USER
908
RECEIVE ANSWERS TO THE SELECTED USER QUERY SET FROM THE USER
910
PROCESS ANSWERS AND PATIENT DATA USING AI ENGINE TO DETERMINE POSSIBLE CLASSES OF PATIENTS
912
ARE THERE MORE THAN A THRESHOLD NUMBER OF POSSIBLE CLASSES?
Y
N
914
ARE THERE MORE THAN 1 POSSIBLE CLASSES?
Y
N
916
PRESENT PATIENT CLASS/ PATIENT PROFILE DATA FOR THE POSSIBLE CLASSES TO THE USER
918
DOES THE USER WANT TO SELECT ONE OF THE POSSIBLE CLASSES?
N
Y
920
IS THERE 1 POSSIBLE CLASS?
Y
N
DOWNLOAD SET OF PROGRAMMING PARAMETERS FOR THE ONE CLASS TO PROGRAMMER
922
924
QUERY USER TO DETERMINE IF PROGRAMMING PARAMETERS ARE ACCEPTABLE
926
ARE PROGRAMMING PARAMETERS ACCEPTABLE?
N
Y
928
PROGRAM IMPLANTABLE MEDICAL DEVICE USING PARAMETERS
932
PRESENT QUERY TO USER: "PATIENT CLASSIFICATION NOT AVAILABLE, TRY AGAIN?"
930
DOES USER WANT TO TRY ANOTHER SYSTEM?
Y
B
N
END

FIG. 9